

CLAIMS

1. Device for vertebral column support, comprising at least one connecting sliding piece (4) for connecting an anchoring screw (1) to a fastening rod (3),  
5 the structure of the connecting sliding piece (4) being elongate in a general lengthwise direction (III), the connecting sliding piece (4) comprising a first hole (16) conformed for the passage and fixing of the anchoring screw (1), the connecting sliding piece (4) comprising  
10 receiving means (18) adapted to receive a portion of the fastening rod (3) oriented along a transverse axis (IV) perpendicular to the lengthwise direction (III) and to receive clamping means (21, 22) for selectively clamping the fastening rod (3) in said receiving means (18) or  
15 releasing it therefrom, characterized in that:

- the connecting sliding piece (4) comprises two points (9, 10) conformed to penetrate into the bone of a vertebra to retain the connecting sliding piece (4) on the vertebra,

20 - the two points (9, 10) are disposed in the region of the sliding piece including the receiving means (18), on the interior face (11) of the sliding piece and opposite the receiving means (18), which are on the exterior face (13) of the connecting sliding piece (4),

25 - the two points (9, 10) are parallel to and offset from each other in the direction of the transverse axis (IV) of the connecting sliding piece (4), parallel to the fastening rod (3),

- the fastening rod (3) is engaged in the end of  
30 the receiving means (18) opposite the anchoring screw in the general lengthwise direction (III).

2. Device according to claim 1, characterized in that each point (9, 10) is a generally triangular flat structure in a plane perpendicular to the direction of  
35 the transverse axis (IV).

3. Device according to claim 2, characterized in that each point (9, 10) comprises retaining teeth (9a, 9b) on the two sides of the triangle.

5       4. Device according to any one of claims 1 to 3, characterized in that the interior face (11) of the sliding connecting piece (4) adapted to bear against the vertebra is concave and substantially cylindrical with a circular profile.

10       5. Device according to claim 4, characterized in that each point (9, 10) extends in a substantially radial direction of the cylindrical interior face (11) of the connecting sliding piece (4) and the first hole (16) has an axis (I) that is substantially radial relative to the cylindrical interior face (11) of the connecting sliding  
15       piece (4) so that the points (9, 10) and the anchoring screw (1) converge toward the vertebra.

6. Device according to any one of claims 1 to 5, characterized in that the connecting sliding piece (4) comprises:

- 20               - a transverse exterior groove (17),  
              - a cylindrical bearing surface (18) forming a first edge of the transverse groove (17) opposite the first hole (16) and conformed to receive a portion of the fastening rod (3),  
25               - a clamping hole (20) separate from the first hole (16) in the bottom of the transverse groove (17) separated from the first edge of the transverse groove (17) by a distance greater than the diameter of the fastening rod (3),  
30               - an oblique bearing surface (19) constituting the second edge of the transverse groove (17) and inclined to the axis (II) of the clamping hole (20).

7. Device according to claim 6, characterized in that the clamping means comprise:

- 35               - a tightening screw (21) with a head (21b) and a

threaded shank (21a) adapted to be screwed into the clamping hole (20),

5       - a jumper (22) adapted to be engaged in the manner of a wedge in the transverse groove (17) between the oblique bearing surface (19) and the fastening rod (3) and adapted to be pushed toward the bottom of the transverse groove (17) by the tightening screw (21) with a bearing face (22b) in sliding bearing engagement with the oblique portion (19) and with an opposite thrust face  
10       (22c) bearing on the fastening rod (3).

8. Device according to claim 7, characterized in that the jumper (22) is pierced by a jumper hole (22a) through which is passed the shank (21a) of the tightening screw (21) whose head (21b) bears on the external face of  
15       the jumper (22) to push it toward the bottom of the transverse groove (17).

9. Device according to either claim 7 or claim 8, characterized in that the head (21b) of the tightening screw (21) includes a polygonal contour axial hole (21c)  
20       for turning it.

10. Device according to any one of claims 7 to 9, characterized in that the thrust face (22c) of the jumper (22) has a lower portion (122c) oriented generally toward the bottom of the transverse groove (17) to bear  
25       against the fastening rod (3) and an upper portion (222c) open upward to facilitate lateral engagement of the fastening rod (3).